

San Francisco Bay/Sacramento-San Joaquin River Bay Delta Conservation Plan (BDCP)
Summary & Update Paper
July 18, 2011

BACKGROUND: The San Francisco Bay/Sacramento-San Joaquin River Delta (Bay Delta Estuary) is among the most important estuary ecosystems in the nation. The upper estuary is composed of the Sacramento-San Joaquin River Delta (Delta) which is the hub of the nation's largest water delivery system, the State Water Project (SWP) and the Central Valley Project (CVP). The Bay Delta Estuary provides drinking water to 25 million Californians, sustains about \$400 billion of annual economic activity, including agriculture, recreation, and commercial fishing, and is home to 55 species of fish and 750 species of plants and wildlife.

The Bay Delta Estuary is in crisis. After decades of steep and steady decline, the ecosystem has reached a point of collapse. The long-term decline of native fisheries in the Bay Delta Estuary over the past several decades is dramatic and well-documented.¹ After 2001, many open water fish species, including two species that were previously the most abundant in the Estuary, suffered nearly simultaneous, sharp population declines. Impacts from water diversions, climate change, sea-level rise, drought cycles, seismic risks, and other stressors such as pesticides, nutrients, pollutant discharges, and invasive species, contribute to plummeting fish populations, aquatic ecosystem instability, water supply shortages and vulnerability.

BDCP: The Bay Delta Conservation Plan (BDCP) is a collaborative process intended to address the most critical water issues facing California by reconfiguring the SWP and CVP points of diversion and delivery infrastructure and providing large-scale restoration of aquatic habitat. The BDCP includes an application for species take permits for several threatened and endangered species pursuant to Section 10 of the Endangered Species Act (ESA). The ESA Section 10 application will identify water diversion operations, flow through the estuary, and habitat restoration actions that contribute to the recovery of endangered and sensitive species and their habitats, improve reliability and flexibility in water supply, and ensure the vitality of local communities and agriculture.

ESA & NEPA: The BDCP NEPA document is intended to "provide the basis for the issuance of ESA permits for the operation of the state and federal water projects." The term of the take permits and plan implementation is the next 50 years.² There are three federal lead agencies, USFWS, NMFS, and BOR ("lead agencies"); EPA and US Army Corps of Engineers (USACE) are federal cooperating agencies on the NEPA document. The SWP (state) and CVP (federal) divert water out of the southern part of the Sacramento-San Joaquin River Delta and deliver it to urban, industrial, and agricultural users. Coordinated water diversions through the SWP and CVP are currently operating under ESA jeopardy opinions from USFWS and NMFS for Delta smelt, Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, North American green sturgeon, and Southern Resident killer whales.

The lead agencies have chosen to produce a **programmatic** EIS for the ecosystem restoration elements and a **project level** EIS for the "Delta Conveyance Projects" (relocation of pumps to the north Delta, new canal or pipeline to divert the water, operations plan for water diversion). The Delta Conveyance project proposes construction and operation of a 15,000 cfs canal or pipeline and 3 to 5 intake structures in the Sacramento River or on the banks and levees.

The BDCP EIS is intended to serve as the primary method of NEPA compliance for a significant number of regulatory decisions, including, but not limited to: (1) ESA Section 10 species take permits from NMFS and FWS; (2) change in the SWP and CVP point of diversion permit from the State Water Resources Control Board (State Water Board); (3) Clean Water Act (CWA) Section 401 certification for the Delta Conveyance Project from the State Water Board; (4) CWA Section 404 permit, Rivers and Harbors Act (RHA) Section 10 and Section 408 permits for the Delta Conveyance Project from USACE.³

Clean Water Act and Rivers and Harbors Act

NEPA Integration: The lead and federal cooperating agencies are reviewing a draft NEPA-CWA-RHA MOU that is

intended to streamline environmental review processes for two different sets of BDCP elements. First, the entire set of activities described in the BDCP EIS will be considered at the programmatic level of detail, to the extent that programmatic decisions may affect subsequent USACE permitting. Second, the new conveyance facilities and associated changes in operational parameters for the SWP and CVP will be considered at the site-specific project level, with a goal of providing USACE sufficient information to make permit decisions for these activities. Specifically, the MOU, if finalized, is intended to cover USACE permit decisions for any necessary (1) CWA Section 404 permit decisions to discharge dredged or fill material into waters of the U.S., (2) RHA Section 10 permit decisions to authorize work in, over, or under navigable waters of the U.S., including the diversion of water from navigable waters of the U.S., and (3) Section 408 permit decisions for alterations/modifications to existing USACE projects.

CWA Section 404 Analysis: Region 9 is working with USACE Sacramento District and DWR on the CWA Section 404 process for the Delta Conveyance Projects. Initial concepts and concerns include:

1. **Alternatives Analysis & LEDPA Identification:** The Delta Conveyance Project LEDPA analysis should include conventional for estimating impacts to designated uses in waters of the United States. The LEDPA analysis will include an estimate of impact to waters of the US from the proposed discharge of fill material (usually in acres of fill to waters). The analysis should also include estimates of the impact of operations (water diversion) on water quality and directly on designated uses such as estuarine habitat and salmon and sturgeon migratory corridors. Interagency Ecological Program Scientists consider loss of estuarine habitat (area of low salinity zone) to be a significant contributor to recent open water fish population losses. During the last decade, SWP and CVP operations have moved the low salinity zone, measured by the location of "X2" (the distance from the Golden Gate Bridge to the place in the estuary where salinity is 2 parts per thousand), into the narrow channels of the eastern Delta substantially reducing habitat for open water fishes during the fall months. USACE South Pacific Division is using a model to estimate the size of the low salinity zone in their NEPA documentation for the Sacramento Deep Water Ship Channel dredging project. We think this type of model is appropriate for the Delta Conveyance Project Operations LEDPA analysis because it provides a metric that estimates the impact to the amount of low salinity zone habitat under different operations alternatives.

EPA recommended evaluating impacts to levels of from the Delta Conveyance Project The CALFED Water Quality Program, in 2008, suggested using organic carbon, bromide, and methylmercury as primary indicators. Many of the ecosystem enhancement and conveyance changes proposed in the BDCP will likely have significant water quality impacts within the Bay Delta watershed. Proposed conveyance reconfiguration, for example, could significantly alter the relative proportions of tributary waters entering the Delta and the transport routes and times.

2. **Prohibitions to discharge at 40 CFR 230.10(b) and (c):** We are concerned that Delta Conveyance Project operations may cause or contribute to violations of state water quality standards and significant degradation of aquatic resources. The scoping comments EPA provided to the lead federal agencies specifically recommend the EIS contain information about water quality and how it may change under different operations alternatives. All waterways within the Delta are on the CWA Section 303(d) List for salinity, toxicity, pesticides, metals, pathogens, nutrients, low dissolved oxygen, and invasive species. SWP and CVP operations pull somewhat cleaner Sacramento River water into the south Delta where salinity, selenium, low dissolved oxygen, pesticides and nutrients are substantial water quality problems. Diverting Sacramento River water in the north Delta eliminates a dilution source in the south Delta which has the potential to exacerbate existing water quality problems. We are also concerned that operations (magnitude, timing, and frequency of diversions) will decrease the amount of low salinity zone, estuarine habitat, for native and desired pelagic fishes. These fish populations have already experienced record lows in population. Delta Conveyance Project operations alternatives may contribute to loss of low salinity zone habitat in the estuary, increase open water fish population losses, and increase habitat for freshwater invasive species that compete with native fisheries.

¹ JOHN E. SKINNER, AN HISTORICAL REVIEW OF THE FISH AND WILDLIFE RESOURCES OF THE SAN FRANCISCO BAY AREA 226 (Cal. Dept. of Fish and Game, Water Projects Branch Rep. No. 1, 1962), *available at* http://www.estuaryarchive.org/archive/skinner_1962/; W.A. Bennett & Peter Moyle, *Where Have All the Fishes Gone? Interactive Factors Producing Fish Declines in the Sacramento-San Joaquin Estuary*, in SAN FRANCISCO BAY: THE ECOSYSTEM 519, 519-42 (J.T. Hollibaugh ed., 1996); PETER MOYLE ET AL., 2010 CHANGING ECOSYSTEMS: A BRIEF ECOLOGICAL HISTORY OF THE DELTA (Feb. 2010), *available at* http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/intro_delta_history_14feb2010.pdf

² <http://baydeltaconservationplan.com/BDCPPanningProcess/AboutBDCP.aspx>

³ <http://baydeltaconservationplan.com/EnvironmentalReviewProcess/AboutTheEIR.aspx>

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